REMARKS

The present application includes claims 1-21. Claims 1-20 were rejected by the Examiner. By this Response, claim 21 has been added. Additionally, claims 1, 7 and 15 have been amended.

By this Response, claim 1 has been amended to recite a plurality of measurement units for measuring current in an imaging system, each of the plurality of measurement units associated with one of a plurality of components of the imaging system to measure current in the component. Claim 1 has also been amended to recite that the power controller dynamically allocates power among the main system power and the battery charger based on current measurements from the plurality of measurement units and imaging system configuration information. The Applicant respectfully submits that the prior art does not teach or suggest the limitations of amended claim 1, and, therefore, independent claim 1 and its dependent claims 2-6 and 21 should be allowable.

Claim 7 has been amended to recite measuring current usage at a plurality of components in the imaging system and dynamically allocating power in the imaging system based on a system configuration, the current usage and the current input in the imaging system. The Applicant respectfully submits that the prior art does not teach or suggest the limitations of amended claim 7, and, therefore, independent claim 7 and its dependent claims 8-14 should be allowable.

Claim 15 has been amended to recite that the system configuration includes at least one of a selected imaging mode of operation, a number of components in use,

component current consumption, available input current and a cord current capacity limit. The Applicant respectfully submits that the prior art does not teach or suggest the limitations of amended claim 15, and, therefore, independent claim 15 and its dependent claims 16-20 should be allowable.

Claims 1-20 were rejected under 35 U.S.C. § 102(b) as being anticipated by Gordon et al. (U.S. Patent No. 5,808,376).

The Applicant turns to the Examiner's rejection of claims 1-6 over Gordon. While Gordon mentions a power management and distribution system, Gordon does not disclose an **adaptable** power management system, such as the system recited in independent claim 1 of the present application. (See column 5, line 13). Additionally, the input current sensing module 204 shown in Fig. 3 and cited by the Examiner is for use in disabling current flow when the current exceeds a threshold. (See column 11, lines 23-30). Thus, the input current sensing module 204 and the system of Gordon cited in the Advisory Action serve as a surge protection and power-down device, rather than a power management and allocation system, such as the system recited in independent claim 1 of the present application. Furthermore, the input voltage and current sense and control module 202 of Gordon measures current to determine "if [the] current exceeds a threshold determined in part by the regulated voltage provided by the power factor corrector 80[.]" (See column 11, lines 46-51). If the current exceeds the threshold, then system circuitry is ***immediately shut down***. (See column 11, lines 49-55). Therefore, the system described by Gordon is one for power shut-down and protection, not allocation of

available power among imaging system components and not adaptable power management, as recited in independent claim 1 of the present application. The power management in Gordon does not include a plurality of measurement units for measuring current in an imaging system, **each of the plurality of measurement units associated with one of a plurality of components** of the imaging system to measure current in the component. Additionally, the power management in Gordon is not **dynamic based on current measurements from the plurality of measurement units and imaging system configuration information**, as recited in claim 1.

Gordon relates to an apparatus for powering a large scale medical imaging system, such as a CT scanner. In Gordon, the imaging system operates off of a regulated DC voltage, from an external power source and a battery-powered uninterruptible power supply (UPS), "so that the batteries are charging during normal conditions of the external power supply and instantaneously provide power when the external power falls below the threshold level provided by the batteries." (See column 4, lines 4-14). In Gordon, the UPS powers all of the components for the entire CT scanner operation in the event of external power disruptions (See column 9, lines 39-54). Thus, Gordon discloses a system for engaging a UPS for powering an entire imaging system when the external power drops below a measured threshold. Gordon also discloses a system where available power is apportioned prior to shut down according to particular system functions to be performed, where certain functions are of higher priority than other functions (See column 14, lines 56-65).

Claim 1 recites a power controller to allocate power between the main system power and a battery charger "based on current measurements from the plurality of measurement units and imaging system configuration information." This limitation is thus also included in dependent claims 2-6. Although Gordon discloses a UPS/battery system to power a CT scanner when external power falls below a threshold level, Gordon does not disclose a power controller that allocates power between the main system power and the battery charger based on this current measurement from the measurement unit. Gordon does not indicate that the allocation of power is based upon the information obtained from a measurement unit; Gordon merely indicates that it if enough power is not available, lower priority functions will not be powered. In Gordon, the IVCSC module 202 only provides over-power protection; power is not allocated among multiple components based upon a current measurement. (See column 11, lines 45-55). Thus, Gordon does not indicate that power is allocated based upon current measured from the measurement unit. In Gordon, it is an order of power deprivation or shut down that may be dictated by system function priority. (See column 14, lines 56-67). Certainly, Gordon does not disclose a plurality of measurement units where each of the plurality of measurement units is associated with one of a plurality of components of the imaging system to measure current in the component. Gordon also does not disclose using imaging system configuration information in addition to current measurement information to dynamically allocate power. Additionally, claim 1 recites allocating power among imaging system components, not just determining whether to use outlet power or battery backup.

The Applicant also respectfully submits that dependent claims 2-6 are not disclosed by Gordon. For example, with respect to claim 2, Gordon measures current in the IVCSC module 202 but does not measure at least one of current and voltage at a plurality of points *in the imaging system*. With respect to claim 6, Gordon does not teach a power controller that dynamically allocates power within a power limit. Gordon does not disclose that the power allocated to system components changes with respect to a given power limit. Gordon merely discloses that, if enough power is not available (i.e., there is a certain power limit), non-critical system functions will not have power. (See column 14, line 56 – column 15, line 10). The threshold voltage discussed in Gordon is not a power limit. (See column 11, lines 58-61). Additionally, the threshold voltage is used to trigger the protection circuit to shut down the system, not to allocate power, let alone to dynamically allocate power Gordon does not disclose a power controller that can dynamically change the power allocated to the various system functions.

Therefore, the Applicant respectfully submits that claims 1-6 of the present application should be allowable over Gordon for at least the reasons set forth above.

The Applicant next turns to the Examiner's rejection of claims 7-14 as being anticipated by Gordon. As discussed above, Gordon teaches the use of a UPS which provides power to all of the components for the entire CT scanner operation in the event of an external power disruption (See column 9, lines 39-54). Gordon does not teach "allocating power in the imaging system based on a system configuration, current usage,

and the current input in the imaging system." This limitation is recited in independent claim 7 and is thus contained in dependent claims 8-14.

As discussed above, Gordon discloses apportioning power where "certain functions are of higher priority than other functions, and therefore are last to be deprived of power." In embodiments of the present invention, however, power is allocated not merely based upon a static hierarchy of system priority as in Gordon (See column 14, line 66-67). In claim 7, power allocation is based upon 1) a system configuration (for example, whether components such as an image printer are operational), 2) the current input in the imaging system and 3) current usage measured at a plurality of components in the imaging system.

Thus, while Gordon mentions a power management and distribution system, it fails to teach a method for **dynamic** power management in an imaging system, as recited in independent claim 7 of the present application. (See column 5, line 13). Furthermore, while Gordon measures current, Gordon does not teach or fairly suggest allocating power in the imaging system based on ***1) a system configuration, 2) current usage at a plurality of components, and 3) current input in the imaging system***, as recited in claim 7. (See column 11, lines 4-10 and 30-45). Rather, the current is measured to determine if an imaging system shut down is necessitated by current exceeding a current threshold. (See column 11, lines 30-45). Thus, Gordon is geared toward ***shutting down*** the medical imaging system if a problem arises. (See column 11, lines 37-42 and column 14, lines 30-35).

Additionally, the Applicant respectfully submits that Gordon does not disclose all limitations in dependent claims 8-14. For example, with respect to claim 8, as described above, Gordon does not measure at least one of voltage and current at a plurality of locations in the imaging system but rather only measures within the IVCSC module 22. (See column 11, lines 55-61). With respect to claim 9, Gordon shuts down the system rather than dynamically allocating power based on system usage. (See column 14, lines 30-35 and column 14, line 56 – column 15, line 10). With respect to claim 10, Gordon discloses a power factor corrector 80 which corrects for power inefficiencies created by input impedance of the system (column 8, lines 9-12), however Gordon does not disclose a method whereby power is reallocated to different components **based on a change of system configuration**. Such a teaching is simply absent from Gordon, which relies on current and voltage thresholds to determine when to shut down the imaging system. Embodiments of the present invention allow for power to be reallocated based upon a change in the configuration of the system (for example, the addition or subtraction of a component, such as an image printer). With respect to claim 11, the Applicant respectfully urges that Gordon does not disclose a method for re-allocating power in the imaging system based on current consumption exceeding a predefined limit. Although Gordon discloses an over-power protection circuit (column 11, lines 45-55), Gordon does not disclose a system that may ***re-allocate*** power to different components (for example, to turn a component on, see paragraph 24) if current consumption exceeds a predefined limit. Rather, if a current exceeds a threshold, the Gordon system is shut down. (See column 11, lines 30-45 and column 14, lines 30-35).

Therefore, the Applicant respectfully submits that claims 7-14 of the present application should be allowable over Gordon for at least the reasons set forth above.

Now turning to the rejection of claims 15-20 in view of Gordon, independent claim 15 recites a power management controller allocating available power among components in the imaging system "based on upon system configuration, wherein said system configuration includes at least one of a selected imaging mode of operation, a number of components in use, component current consumption, available input current and a cord current capacity limit." For the reasons discussed above, the Applicant believes that Gordon does not disclose a power management controller that allocates power in the system based upon a system configuration. Gordon does not disclose taking into account a system configuration that includes one or more of a selected imaging mode of operation, a number of components in use, component current consumption, available input current and a cord current capacity limit. Additionally, the Applicant submits that Gordon does not teach or fairly suggest all the limitations of dependent claims 16-20 for the reasons set forth above.

Thus, the Applicant respectfully submits that independent claims 1, 7, and 15, as well as their respective dependent claims, should be allowable and requests an action accordingly.

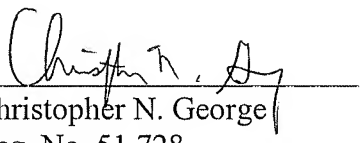
CONCLUSION

The Applicant submits that the present application is in condition for allowance. If the Examiner has any questions or the Applicant can be of any assistance, the Examiner is invited and encouraged to contact the Applicant at the number below.

The Commissioner is authorized to charge any necessary fees or credit any overpayment to the Deposit Account of GTC, Account No. 070845.

Respectfully submitted,

Date: July 27, 2006



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